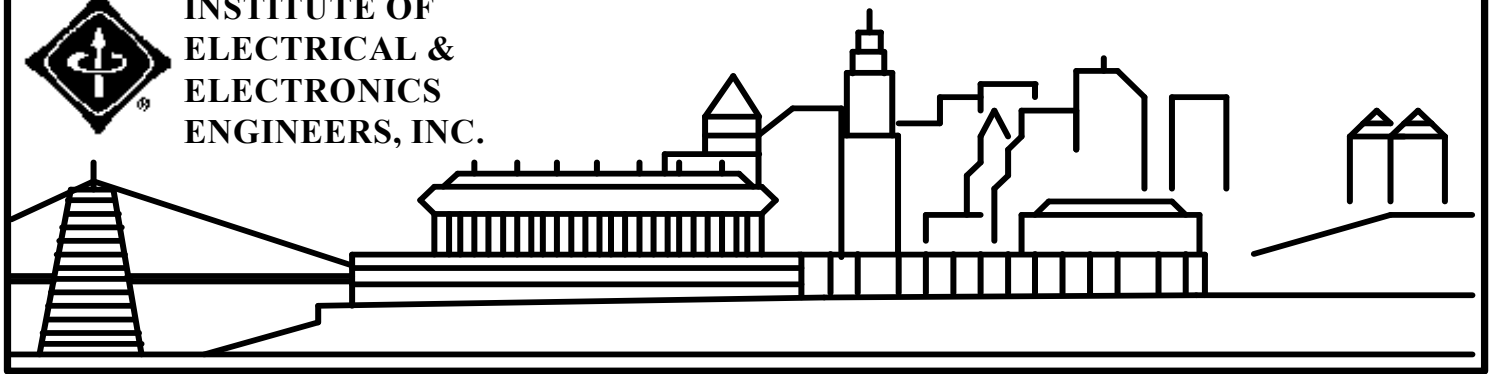




INSTITUTE OF
ELECTRICAL &
ELECTRONICS
ENGINEERS, INC.



MAY 1995

IEEE CINCINNATI SECTION NEWSLETTER

MAY MEETING

Tour of CG&E's East Bend Power Plant

DATE: SATURDAY, MAY 20, 1995

**PLACE: East Bend Power Plant
Rabbit Hash, KY**

TIME : 10:00 am to approx. 12:00 Noon

TRANSPORTATION

A map to East Bend is included on Page 7 of this newsletter. If you wish, you can meet at CG&E's parking lot on Rose St. (see map also on Page 7) at 9:00 am for a bus ride to East Bend. The plant is approximately 31 miles from downtown Cincinnati (about 45 minutes drive time).

NOTES:

Attendance is limited to 30 people !!!!
Please call Bob Morrison at 287-3697
by NOON on May 17, 1995
Give your NAME AND PHONE NO.!!

Due to the amount of walking which will be required at the plant and because of safety requirements, it is recommended that substantial shoes (no sneakers) be worn.
Hard hats and safety glasses will be provided.

This is not a dinner meeting.

ABOUT THE TOUR

Cincinnati Gas & Electric Co's East Bend Station is a 650 MW coal fired generating unit which has been in service since 1980. Included will be a brief overview of the station with a tour through the turbine room, the Main Plant Control Room and the Flue Gas Desulfurization (or scrubber) Control Room.

While at the scrubber, which is used to scrub flue gas to lower SO₂ emissions, we will tour the new Vertimills, which are used to slake, or mix, lime with water to form slurry which is used to clean the flue gas. In 1993 & 1994, CG&E replaced its eight (8) existing lime slakers, which were high maintenance items, with two (2) Vertimills which are monitored and operated via a computer and a "Touch Screen" Monitor interfacing with Modicon PLC's. The control logic and graphics were developed by CG&E.

BACKGROUND OF THE SPEAKER

The presentation will be conducted by Bob Morrison. In addition to being the Editor of this Newsletter and a member of our Section's Executive Committee, he is a Senior Analytical Engineer at CG&E, where he has engineered numerous electrical power plant projects in his 17 years with the company, including the East Bend Vertimills, Beckjord Station Life Extension Projects and the Zimmer Station Coal Conversion. He has been a Registered Professional Engineer in the State of Ohio since 1982.

CHAIRMAN'S MESSAGE

by Steve Olenick

Mr. Clyde Dunsmore, a representative from Kodak, provided an informative presentation on the new self focusing camera at our last technical meeting. The computing power within the camera rivals that of the early Apple computers. Seven lucky attendees went home with various types of Kodak Camera products.

The next technical meeting, scheduled for April 27th, will review the history of early radio broadcasting. This eyewitness accounting will be presented by Clyde Hadley, Ed Dooley and Cal Bop.

We are still planning a tour of the scrubber at CG&E's East Bend Power Plant. The tour is scheduled for Saturday, May 20th. The tour will primarily focus on the new Vertical Ball Mills and their associated control system designed by CG&E and installed. More details will be forthcoming in the May Newsletter.

Now that the NCAA Basketball Tournament is over and daylight savings time is upon us, we can all get back into the swing of our golf clubs and prepare for the annual golf outing at Fairfield Golf Course on June 2. Until next time....

COAXIAL CABLE VS. MICROWAVE

by R. J. Reiman, Historian

VHF TV stations on the air surged from about 100 in 1950 to over 500 in 1988. The UHF broadcasters, however, were in a long and costly struggle. The propagation characteristics of UHF were not as favorable for broadcasting as for VHF, since UHF is attenuated more rapidly by terrain by its shorter wavelength. The smaller UHF receiving antenna were less effective than their VHF counterpart and UHF sections of TV receivers were less sensitive as well. Lastly, the UHF sets were more expensive and the programs offered by the UHF stations were not sufficiently interesting to overcome the other limitations. During these years of growth, network programs were not available to the UHF'ers and being an "independent" was not too popular.

The number of UHF stations of 100 in 1950 did not get to be 200 until 1980. In 1975, the increase in availability of popular programs, the all-channels receiver law, FCC regulatory actions, the effect of cable television and technical progress all led to profitability and growth.

As the result of increased demand for programming by TV broadcasters, an industry developed to produce and distribute TV programs. Over 800 companies including 20 news services were formed in response to this demand. The total revenues which were \$324 million in 1952 grew to more than \$21 billion by 1986. The

demand for TV advertising exceeded the capacity of VHF to handle it. In 1963, the FCC amended the Communications Act to require all TV sets to be able to receive both VHF and UHF channels. Improvement in the sets came gradually, helped by tighter restrictions on specifications, especially in the area of tuning.

In order to further promote UHF, the FCC increased the maximum permitted power and antenna height for UHF stations. The power limit was raised from 200KW to 5,000KW, and the antenna height from 500 feet to 2,000 feet. VHF antenna height was also raised to 2,000 feet. These changes gave UHF some degree of equality to VHF. In spite of all changes, VHF still has a significant advantage in uniform signal strength over UHF, and UHF experienced another competitor to profitability in cable TV. Recording video on magnetic tape, and color TV both led to increases in broadcasting revenues.

Meanwhile, another contest was begun, that between the transmission of TV programs, especially intercity, by cable or by microwave. The contest would challenge AT&T's monopoly over these capabilities and eventually lead to deregulation of AT&T's monopoly.

IEEE NEWS

IEEE-USA STATES POSITION ON HEALTH-CARE INFORMATION TECHNOLOGIES, PRECOLLEGE EDUCATION

WASHINGTON, Jan. 10 -- The United States Activities division of the IEEE has released position statements on developing health-care information technologies and reforming precollege education in math, science and technology. "The Role of Information Technologies in Health Care Reform" is a new position developed by IEEE-USA's Health-Care Engineering Policy Committee; "Precollege Education in Mathematics, Science and Technology in the United States" is a revision of a 1989 position formulated by IEEE-USA's Precollege Education Committee.

The new health-care position calls for the development of a uniform national health-care information system. According to the statement, "Information technologies offer a vital means of enhancing the quality of patient care, increasing access to universal care, and lowering overall costs within a national health-care program."

IEEE-USA recommends that health-care reform legislation provide for such a system through these four steps: funding construction of a national information infrastructure; building a computer-based record system; using national laboratories to help develop the system and devise security measures to safeguard patient privacy; and accelerating technology transfer from government to industry to enhance health-care delivery.

The new system would feature a health security card -- much like an ATM card -- to allow access by both providers and consumers to information about health coverage through an integrated national network. The national health infrastructure, according to the statement, would also become the foundation for a new high-technology health-care delivery system which would include telemedicine, telepresence, teleradiology, telepathology and telesurgery -- and which would represent potential new international markets for the U.S. health-care industry.

The IEEE-USA precollege education position paper cites the urgent need for a technologically literate work force in order for the U.S. to remain competitive in the global marketplace. The statement calls on engineering organizations to create local coalitions with business, educational institutions and government to work for a national goal of scientific and technological literacy for all. These organizations should support curriculum reform, the new national mathematics and science standards, better teaching training, alternative accreditation

for science and engineering professionals who wish to become teachers, and greater accountability for educational excellence on the part of administrators and teachers, according to the paper.

For a copy of "The Role of Information Technologies in Health Care Reform," contact Bernadette Concepcion of IEEE-USA at 202-785-0017. For "Precollege Education in Mathematics, Science and Technology in the United States" contact Bessie Burch, also at 202-785-0017.

IEEE-USA ENDORSES EFFORTS TO CURB DISPLACEMENT OF U.S. HIGH-TECHNOLOGY WORKERS

WASHINGTON, Feb. 6 -- IEEE-USA has endorsed new U.S. Department of Labor regulations governing temporary admission of foreign professionals to work in the United States.

The new rules, effective last month, "close loopholes in existing laws and make it more difficult for companies to replace American professionals with lower-paid foreign workers," said IEEE-USA Board Chairman Joel B. Snyder. "These improvements are critical because of high unemployment among U.S. engineers, and increasing numbers of professionals in developing countries who are especially vulnerable to exploitation," Snyder added.

Under the H-1B program of the Immigration Act of 1990, temporary "specialty workers" such as engineers and other computer professionals could work in the U.S. for up to six years. The new rules limit H-1B visas to three years and beef up enforcement of employer reporting requirements. Employers must now provide specific information on the numbers of foreign nationals they intend to hire. They must also certify that H-1B workers will be paid the prevailing wage, employment of foreign nationals will not hurt working conditions for U.S. citizens, and no strikes or lockouts exist at intended worksites. In addition, the Labor Department will be empowered to investigate suspected abuses without waiting for a formal complaint.

In recent years, IEEE-USA has become more concerned about potential abuses of the H-1B program as numbers of temporary admission have skyrocketed -- even while engineering unemployment has increased to record levels. Estimated temporary admissions of foreign scientists and engineers more than doubled between 1986 and 1993 -- from 28,106 to 59,664 (based on Immigration and Naturalization Service unpublished data). During the same period, according to the Bureau of Labor Statistics, U.S. engineering unemployment ballooned from 2.3 percent to 4.1 percent. A 1993 Labor Department crackdown fined eight employers for significant H-1B violations, resulting also in payment of back wages to under-paid foreign workers.

IEEE-USA ENDORSES 'FRONT-LOADED' IRA AT SAVINGS INCENTIVE HEARINGS

WASHINGTON, Feb. 6 -- An expanded, tax-deductible Individual Retirement Account (IRA) will generate similar benefits for savers and more tax revenue for the U.S. Treasury than the non-deductible American Dream Savings Account (ADSA), according to IEEE-USA Board Chairman Joel B. Snyder. Snyder testified Jan. 31 on savings incentives before the House Ways and Means Committee.

According to Snyder, IEEE-USA agrees with congressional leadership that changes in tax policy are urgently needed to boost personal savings and stimulate private domestic investment. However, he said: "Other than providing for easier access to and greater flexibility in the uses which can be made of account balances, the proposed ADSA's offer few, if any, advantages over other savings incentives that are currently available to taxpayers".

Snyder proposed a dramatic expansion of tax-deductible Individual Retirement Accounts. Noting the 63% decline in IRA contributions that followed restrictions enacted in 1987, he concluded that "an expanded 'front-loaded' IRA will stimulate much more in new savings than the proposed 'back-loaded' ADSA."

In addition to making IRA contributions tax-deductible, Snyder recommended the following savings incentives: removing income eligibility ceilings; expanding allowable contribution limits; and substituting loan provisions for penalty-free withdrawals.

An improved IRA will not only benefit savers and taxpayers, it will also benefit the federal Treasury, according to Snyder. "In the long run, an incentive with tax-deductible contributions and fully taxable proceeds will generate considerable more revenue when the accounts are eventually cashed out," he testified.

U.S. ENGINEERS CONCERNED ABOUT RISING IMMIGRATION, REFORM COMMISSION TOLD

WASHINGTON, Mar. 20 -- U.S. immigration policy encourages a dangerous dependence on foreign engineers and scientists, reducing educational and employment opportunities for U.S. citizens while sapping America's economic and technological competitiveness, according to IEEE-USA Board Chairman Joel B. Snyder. Snyder testified Feb. 23 on employment-based immigration before the U.S. Commission on Immigration Reform, an entity created by Congress through the Immigration Act of 1990.

"Current immigration policy -- by authorizing substantial increases in employment-based admissions -- is adversely affecting engineering job opportunities, wages and working conditions in the United States," Snyder told the commission. He cited statistics that showed admissions of foreign engineers and scientists under temporary and permanent visas skyrocketed from about 40,000 yearly in the late 1980s to more than 80,000 in the early 1990s. At the same time, engineering unemployment climbed from 1.5% in 1989 to a record high of 4.1% in 1993 when 73,000 engineers were out of work, the IEEE-USA official noted.

According to Snyder, U.S. IEEE members rejected the notion that there are widespread shortages of engineers and scientists in the United States that justify increased employment-based immigration; they question the wisdom of admissions policies that encourage the nation's growing dependence on foreign engineers; and they believe that too-easy access to foreign engineers -- many of whom will accept substandard wages or working conditions in order to work in the United States -- undermines America's considerable investment in its own engineering resources.

Snyder called for a re-examination of current immigration policies in the light of changing economic, technological and employment conditions in the United States. To help preserve opportunities for U.S. citizens, he proposed that labor certification requirements be extended to all employment-based admissions, both permanent and temporary. Snyder concluded: "IEEE-USA recommends that immigration be viewed as a supplement to -- rather than as a substitute for -- determined public and private efforts to expand our economic and technological competitiveness through better education and training and through more effective management and utilization of American workers, including engineers and scientists."

**CINCINNATI IEEE SOCIAL EVENT
FRIDAY, JUNE 2, 1995
AT THE FAIRFIELD GOLF COURSE
(FORMERLY PLEASANT RUN)
2200 JOHN GRAY ROAD
FAIRFIELD, OHIO**

- SIT DOWN DINNER CHARCOAL GRILLED NEW YORK STRIP STEAK

*** BAKED POTATO, VEGETABLE & SALAD**

*** COFFEE, TEA, MILK, FREE BEER & SOFT DRINKS & SNACKS**

COST: \$20 (MEMBERS)

\$35 (NON-MEMBERS)

(CHECKS PAYABLE TO IEEE, CINTI SECTION)

GOLF COST IS EXTRA!!!

*** MAKE GOLF RESERVATIONS WHEN YOU MAKE DINNER RESERVATIONS !!**

*** TEE TIMES ARE FIRST COME FIRST SERVED.**

*** PROVIDE NAMES OF THOSE IN YOUR GROUP - WE WILL COMPLETE FOURSOMES WHEN NECESSARY.**

*** GREENS FEES (INCLUDING SHARED CART): \$27.00**

*** ALL GOLFERS MUST USE CARTS**

*** INFORMAL DRESS**

*** TENNIS AVAILABLE**

*** GOLF FEES PAID AT COURSE**

*** TEE OFF FROM 11 AM TO 1:30 PM**

*** REFRESHMENTS AT 6 PM**

*** DINNER AT 7 PM**

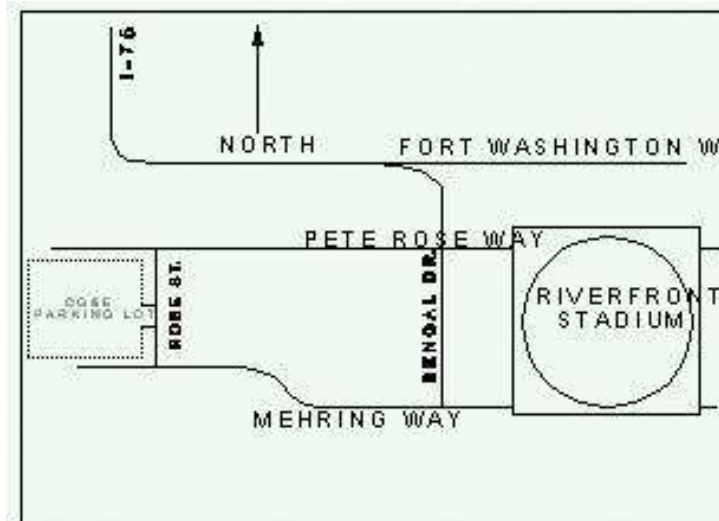
*** ENTERTAINMENT/DOOR PRIZES AT 8 PM**

FOR GOLF/ DINNER RESERVATIONS CALL MIKE CLODFELDER AT 513-287-1721 OR MAIL TO:

**M. D. CLODFELDER
CINCINNATI GAS & ELECTRIC CO.
PO BOX 960, ROOM 625M
CINCINNATI, OHIO 45201**

YOU MUST GIVE YOUR NAME & MEMBERSHIP NUMBER WHEN MAKING RESERVATIONS

**NOTE: ALL DINNER RESERVATIONS RECEIVED AFTER MAY 26 WILL BE CHARGED THE
NON-MEMBER PRICE OF \$35**



- Travel South on I-75/I-71 to Exit #175 (KY Rte. 338).
- At end of exit ramp, turn right & proceed approx. 4.3 mi. to where 338 & U.S. 42 junction. Turn left.
- In approx. 0.6 mi, make a right turn on 338. East Bend is approx. 8.7 mi. on the left.



Dee Scott (call for meeting reservations)	385-9446
Steve Olenick - Chairman	573-6555 (Office), Solenick@cinele.com (E-mail), 573-6514 (Fax)
Bob Haas - Vice Chairman	231-2584
Orest Melnyk - Treasurer	397-1242
Mark Reineck - Secretary	753-6290
Jack Beckmeyer - Arrangements Chairman	353-2643
Bill Jarzembski - Member-at-Large	761-2551
Bill Lohnner - PACE Chairman	385-7268
Bob Morrison - Editor	287-3697 (Office), 287-3698 (Fax)

MAY 1995

IEEE CINCINNATI SECTION NEWSLETTER



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Maineville, Ohio 45039**

DATED MATERIAL
Please deliver promptly